

MATERIAL SAFETY DATA SHEET



LIQUID CARBONIC

INDUSTRIAL/MEDICAL CORPORATION

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DPM 152

Gaseous Helium

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SECTION I--PRODUCT IDENTIFICATION

CHEMICAL NAME: Helium
COMMON NAME AND SYNONYMS: Helium, Gaseous Helium, Helium 4
CHEMICAL FAMILY: Inert Gas FORMULA: He

SECTION II--HAZARDOUS INGREDIENTS

MATERIAL	VOLUME %	CAS NO.	1985-6 ACGIH TLV UNITS
Helium	99.9%	7440-59-7	Simple asphyxiant

SECTION III--PHYSICAL DATA

BOILING POINT (°F.)	-452.1°F	SPECIFIC GRAVITY (H ₂ O=1) @-452.1°F	0.138
VAPOR PRESSURE (mmHg.) (@-452.1°F)	760	VOLATILE BY VOLUME	100%
VAPOR DENSITY (AIR=1)	0.138	EVAPORATION RATE	
SOLUBILITY IN WATER	Slightly	(BUTYL ACETATE=1)	N/A
APPEARANCE AND ODOR	Colorless, odorless gas		

SECTION IV--FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	N/A	FLAMMABLE LIMITS	LEL	UEL
EXTINGUISHING MEDIA:	Non-flammable inert gas		N/A	

SPECIAL FIRE FIGHTING PROCEDURES: Neither burns nor supports combustion. If fire exposed, cool cylinders with water spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Fire exposed cylinders could rupture violently if cylinder valve safety devices should fail to relieve pressure.

SECTION V--HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Helium is a simple asphyxiant, accordingly you should maintain an 18% by volume minimum oxygen content in breathing air at 1 atmosphere pressure.

EFFECTS OF OVEREXPOSURE: Headache, nausea, dizziness, unconsciousness, death

EMERGENCY AND FIRST AID PROCEDURES: If inhaled remove to fresh air. Obtain prompt medical attention. Administer air or oxygen; give cardiopulmonary resuscitation. Rescue personnel should have self-contained breathing apparatus.

ROUTE(S) OF ENTRY:	INHALATION?	Yes	SKIN?	INGESTION?
CARCINOGENICITY:	NTP?	No	IARC MONOGRAPHS?	OSHA?
			No	No

SECTION VI--REACTIVITY DATA

STABILITY: UNSTABLE () STABLE (X)
CONDITIONS TO AVOID: N/A
INCOMPATIBILITY (MATERIALS TO AVOID): None
HAZARDOUS DECOMPOSITION PRODUCTS: None
HAZARDOUS POLYMERIZATION: MAY OCCUR () WON'T OCCUR (X)
CONDITIONS TO AVOID: N/A

SECTION VII--SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Maintain adequate ventilation to avoid deficiency (less than 18%) of oxygen in breathing atmosphere. Evacuate all personnel from the affected area. Emergency personnel should wear self-contained or positive pressure air breathing masks.

WASTE DISPOSAL METHOD: Vent to atmosphere in ventilated remote area.

SECTION VIII--SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Self-contained or positive pressure air breathing masks.

VENTILATION: LOCAL EXHAUST (X) At points of release to prevent O₂ concentration in air from being reduced to below 18% by volume (135mm of Hg).

MECHANICAL (GENERAL) ()

PROTECTIVE GLOVES: cotton or leather

EYE PROTECTION: Safety goggles or glasses

OTHER PROTECTIVE EQUIPMENT: Safety shoes; Low oxygen (less than 18%) alarm where necessary.

SECTION IX--SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Protect containers from physical damage. Use only DOT or ASME coded storage containers. Follow normal compressed gas storage practice. Helium is stored as a high pressure gas and can cause rapid suffocation if inhaled. It should be stored in dry, cool area with adequate ventilation.

OTHER PRECAUTIONS:

Refer to CGA Bulletin SB-2 and CGA Pamphlets P-9 and P-14.

SB-2 -- "Oxygen Deficient Atmospheres"

P-9 -- "The Inert Gases Argon, Nitrogen, and Helium"

P-14 -- "Accident Prevention in Oxygen-Rich and Oxygen-Deficient Atmospheres"

Use a check valve or trap in the helium cylinder discharge line to prevent backflow. Helium cylinders must not be recharged except by or with consent of Liquid Carbonic.

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